Environmental and Policy Indicators for Cardiovascular Health: Data Sources in South Carolina

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Over the past two years, the Cardiovascular Health Branch (CVHB) of the Division of Adult and Community Health at the Centers for Disease Control and Prevention (CDC) developed a working list of environmental and policy indicators that show promise for enhancing cardiovascular health promotion and disease prevention and control. This list was crafted through a lengthy decision-making process that began with the Environmental, Policy, and Evaluation Workshop hosted in May 1999 by CVHB [1]. Members of state CVH Programs (CVHP), subject matter experts, and representatives from CDC's Division of Adolescent and School Health (DASH), Division of Nutrition and Physical Activity (DNPA), and Office on Smoking and Health (OSH) contributed to this process.

From the resulting list, the same groups selected a shorter pilot list of indicators for potential surveillance [2]. The purpose of this list is to establish a set of measures that could be used by staff in state CVHP to track local policy and environmental actions that impact CVH. The list contains 31 indicators across four public health channels: community, school, worksite, and health care (see Appendix A). These indicators were selected based on a review of the literature, knowledge of current efforts, and the following criteria:

- An emphasis on heart-healthy policy and environmental changes related to physical activity, nutrition, and/or tobacco control
- Quality – accuracy, sensitivity, reliability, validity
- Feasibility – cost, ease of data collection
- Acceptability – to the practice setting and to the CVHPs
- Effectiveness of the indicator – based on science and experience

In October 2000, CDC asked the South Carolina and Alabama CVHPs to work with their Prevention Research Centers (PRC) to identify, review, and report on existing data sources that could be used to measure pilot indicators in their states. This report from the South Carolina project describes the methods used to identify possible data sources for SC, presents the results of the investigation, and discusses lessons learned along the way. It also includes recommendations for the CDC and for state CVHPs that embark on a similar effort. The appendices include the list of indicators (Appendix A), information about possible data sources

for each indicator (Appendices B-E), detailed information about each data source (Appendix F), and references (Appendix G).

Methods

In SC, members of the CVHP completed preliminary work that identified a few of the data sources prior to the start of this project. They shared this information with the USC PRC, which followed up and expanded on that effort.

A modified snowball technique was used to identify possible data sources. Specifically, experts at the health department and other state agencies were asked to review the indicators in their area of expertise. The initial contacts were people known to the CVHP and the USC PRC. Each expert was asked:

- *Do you currently collect data related to the indicator(s)? If so, how?*
- *If not, do you know of anyone who does or who might collect such data? If so, who?*
- *If not, how would you measure the indicator if you were asked to?*

Electronic literature reviews and searches of the Internet were also used to identify additional data sources and other possible contacts. Because so few data sources were available, each data source was evaluated primarily for availability and feasibility (cost, ease of data collection, and burden on respondents). Assessments of quality were made based on face validity and expert opinion as documented by the report's authors. Although extensive efforts were made to consult with experts in fields related to the indicators, data sources may exist that were not discovered in the course of this investigation.

Results

This section summarizes results from the search of data sources for each group of indicators. A detailed description of potential data sources for each indicator appears in Appendices B-E. Additional information about each data source is contained in Appendix F. While researching possible data sources, the USC PRC contacted individuals and accessed information over the Internet from thirty different organizations (see Table 1) at the national, state, and local level.

Table 1: Organizations Contacted about Data Sources

Organization	Method*	Channel**	Topic area***
Assoc. of Worksite Health Promotion	I	W	PA, N
Dun and Bradstreet	I	W	sample frame
Federal Milk Market (regional)	T, I	C	N
grocery store (local, corporate offices)	T	C	N
Insurance companies (5)	T, I	H	PA, N, T, secondary prevention
Legislative Printing and Information Technology Systems	T, I	C, S, W	PA, N, T
local direct marketing company	T	W	sample frame
National Transportation Enhancements Clearinghouse (NTEC)	T, I	C	PA
New York Department of Health	P	W	PA, N, T
Regional Dairy Council	T	C	N
SC Association for Health Promotion, Exercise, Recreation, and Dance	T	S	PA
SC Dairy Council	T	C	N
SC Department of Agriculture	T, I	C	N
SC Department of Insurance	T, I, P	H	PA, N, T, secondary prevention, sample frame
SC Department of Revenue	T	W	sample frame
SC DHEC (CVHP, consultants)	T, P	C, S, W, H	PA, N, T
SC DOT (pedestrian/bicycle coord., enhancements coord., budget office)	T, I	C	PA
SCDE (Healthy Schools, school food services, curriculum, legal dept.)	T, I, P	S	PA, N, T
State worksite health promotion org.	T	W	PA, N, T
US Census Bureau	I	C, H	population, health insurance coverage
US DHHS, CDC (DASH)	I, P	C, S	PA, N, T
US DHHS, CDC (DNPA)	I	C, S	PA, N
US DHHS, CDC (OSH, BRFSS)	I	C, S, W, H	T
US DHHS, Data HP2010	I	C, S, W, H	PA, N, T
USDA	T, I	C	N
Utah Department of Health	T	C	PA

* T = telephone
I = Internet
P = printed material

** C = community
S = school
W = worksite
H = health care

*** PA = physical activity
N = nutrition
T = tobacco

In SC, data sources are currently available to measure 18 of the 31 pilot indicators. The amount of effort needed to measure the indicators has been classified as:

- low = data are readily available
- medium = survey questions are available and existing survey mechanisms are in place
- high = surveys must be developed and sample frames acquired or created

Of the 31 indicators:

- 15 would require a low level of effort
- 3 would require a medium level of effort
- 13 would require a high level of effort

Data that are readily available fall into three categories:

- text documents (e.g., copies of state laws and departmental policies, many of which are available electronically)
- survey data (e.g., the Behavioral Risk Factor Surveillance System [BRFSS] and the School Health Policy and Programs Study [SHPPS]) and/or data stored in secondary data sets (e.g., the State Tobacco Activities Tracking and Evaluation System [STATE] and the database maintained by the National Transportation Enhancements Clearinghouse)
- knowledge sources (e.g., policy experts at state departments of education or transportation)

The results that follow summarize the types of data sources that are available in each channel.

Community indicators

The first five community indicators (see Table 2) would require a high level of effort to measure because no survey instruments are available and a sample frame is needed to contact the appropriate people. Data are readily available for the three remaining indicators.

Table 2: Data Sources for Community Indicators
(See Appendix B for details)

Pilot Indicator (abbreviated)*	**Effort required to measure**^	**Type of data available**^^
1. Percent of highway funds devoted to transportation alternatives	H	
2. Percent of counties/municipalities with policies requiring sidewalks	H	
3. Percent of counties/municipalities that promote recreation facilities	H	
4. State policies and percent of counties/municipalities that promote bicycle use for transportation purposes	H	
5. Percent of milk sales in the State that is low-fat (1% or less)	H	
6. Number of farmers' markets per capita in the State	L	S
7. State indoor air laws for restaurants, day care centers, and other public places	L	T, S, K
8. Proportion of smokers w/ smoking not allowed inside their home	L	S

* See Appendix A for the full text of pilot indicators.

^ Effort required to measure:
L = low, data readily available
M = medium, surveys available/mechanisms in place
H = high, surveys/mechanisms not available

^^ Type of data available:
T = text of documents, policies, legislation
S = survey data or secondary datasets
K = knowledge source

In the case of state highway funding (community indicator #1), the SC Department of Transportation (SC DOT) does not itemize its construction projects in a way that would allow an estimate of the percentage of the budget spent on transportation alternatives [3]. It is possible, however, to get an estimate of the percent of funds spent under the Transportation Equity Act for the 21st Century (TEA-21) for bicycle and pedestrian features. The National Transportation Enhancements Clearinghouse (NTEC) maintains a database of TEA-21 enhancement projects, which is updated annually and is searchable over the Internet [4; 5].

The three indicators that address county and municipal policies (community indicators #2-4) would require developing a survey tool with questions about specific policies for each feature of interest (sidewalks, recreation facilities, and bicycle use for transportation). One survey could be used to measure all three features, similar to a survey conducted in Utah [6]. The Utah Cardiovascular Health Alliance sent two short surveys to all 236 municipalities in the state. One was a survey about policies, the other asked about settings and facilities. The surveys were

accompanied by a letter from the Governor, and individuals who returned the surveys by a specific date were entered in a $500 drawing. As a result, an 80% response rate was achieved. The results will be available in 2002.

A similar survey could be conducted in SC using an up-to-date list of the individuals responsible for planning at each of the 46 counties and over 200 municipalities in SC agencies [7-9]. In SC, such a list can be developed with the help of the Landscape and Architecture Department at Clemson University and the SC Chapter of the American Planning Association [9].

The data on milk sales (community indicator #5) is surprisingly difficult to collect. It is not available through the SC Dairy Association [10], SC Department of Agriculture [11], or the regional milk market [12]. Obtaining such data would require a survey of the corporate offices of local grocery stores, discount stores (e.g., Walmart, Sams, Kmart), and convenience stores. In test calls made to the national and regional offices of a local grocery chain, the USC PRC found that the grocery chain tracked this data but was not willing to disclose any information [13; 14]. It may be possible for the CDC to collect state-level data from the national offices of the milk outlets. The effort required must be balanced with the purpose and benefit of the indicator, since milk sales data measure consumption and are only a proxy measure of availability in the environment.

Data are readily available for the remaining three indicators. The US Department of Agriculture (USDA) maintains a list of farmers' markets (community indicator #6), which is searchable by state on the Internet [15]. The state's indoor air law (community indicator #7) is available on the Internet [16], is summarized in the STATE database [17], and can be summarized by tobacco policy experts at DHEC [18]. An optional Tobacco Indicator module in the BRFSS asks respondents if smoking is allowed in their homes (community indicator #8) [19].

School indicators

The richest and most varied sources of data occur in the school setting (see Table 3). This is not surprising, since the CDC criteria for selecting indicators included feasibility and quality of possible data sources. The School Health Policies and Programs Study (SHPPS) surveys all state Departments of Education and a nationally representative sample of districts and schools every six years [20]. This means no conclusions can be made about district and school policies on a

state-by-state basis. The state-level survey however, measures all seven of the state policy indicators (school indicators #1-7). In addition, the text of the state laws [16] and SC Department of Education (SCDE) policies [21] are available in an electronic form that can be searched easily, and SCDE policy experts can explain changes as they occur. Therefore, with baseline information from the SHPPS, the CVHP can track changes in state-level school policy.

Table 3: Data Sources for School Indicators
(See Appendix C for details)

Pilot Indicator (abbreviated)*	**Effort required to measure**^	**Type of data available**^^
1. State policies that require daily PE for K-12	L	T, S, K
2. State policies that require schools to assess students per PE standards	L	T, S, K
3. States policies requiring that foods and beverages outside of the school meal programs be healthy	L	T, S, K
4. State policies that require newly hired school food service managers to have certification in food service	L	T, S, K
5. State policies that require newly hired staff who teach PE to be certified in physical education	L	T, S, K
6. State policies that require newly hired staff who teach health education to be certified in health education	L	T, S, K
7. States policies that require schools to assess students per health education standards	L	T, S, K
8. Percent of schools that provide health education instruction that includes physical activity, nutrition, and tobacco use prevention topics from School Health Index	M	S
9. Proportion of schools with School Health Councils	L	S
10. Proportion of schools with tobacco-free school policies	M	T, S

* See Appendix A for the full text of pilot indicators.

^ Effort required to measure:
L = low, data readily available
M = medium, surveys available/mechanisms in place
H = high, surveys/mechanisms not available

^^ Type of data available:
T = text of documents, policies, legislation
S = survey data or secondary datasets
K = knowledge source

The remaining three indicators (school indicators #8-10) specifically address school-level policies. Information is available about school health councils (school indicators #9) and tobacco-free schools (school indicator #10) through the School Health Education Profile (SHEP) [22-24]. This biannual survey is sent to the principals and lead health educators at all public schools that contain sixth grade or higher. The SHEP asks if the school has a school health

council and asks some questions about tobacco policy. These questions do not address all the features of a tobacco-free school policy as thoroughly as do the questions in the SHPPS [20; 24]. The questions from the SHPPS could be added to the SHEP to measure this indicator on a regular basis.

Specific topics taught in the areas of physical activity, nutrition, and tobacco use prevention (school indicator #8) can be measured using questions in the School Health Index (SHI) [25]. The SHI, however, was designed as a self-study tool, not a surveillance survey. The SCDE has no plans to require its completion by all schools [26]. The items related to this indicator could be added to the SHEP survey for health educators, if the addition does not place too large a burden on respondents.

Worksite indicators

In SC, no data sources are available to measure policies at individual worksites (see Table 4). Only the indicator that addresses state indoor air laws (worksite indicator #7) can be measured at present, using either the STATE system [17] or by examining the text of the SC Clean Indoor Air Act [16].

Table 4: Data Sources for Worksite Indicators
(See Appendix D for details)

Pilot Indicator (abbreviated)*	**Effort required to measure**^	**Type of data available**^^
1. Percent of worksites that support physical activity during work time	H	
2. Percent of worksites that provide showers and changing facilities	H	
3. Percent of worksites that provide/promote on-going on-site employee physical activity programs	H	
4. Percent of worksites with vending machines and/or snack bars that offer the heart-healthy* food and beverage choices	H	
5. Percent of worksites with cafeterias that offer heart-healthy* food and beverage choices	H	
6. Percent of worksites that offer nutrition or weight management classes or counseling	H	
7. States indoor air laws for government and private worksites	L	T, S, K
8. Proportion of worksites that cover smoking cessation programs	H	

* See Appendix A for the full text of pilot indicators.

^ Effort required to measure:
L = low, data readily available
M = medium, surveys available/mechanisms in place
H = high, surveys/mechanisms not available

^^ Type of data available:
T = text of documents, policies, legislation
S = survey data or secondary datasets
K = knowledge source

To obtain data on the remaining worksite indicators (worksite indicators #1-6 and 8), a telephone interview or mail survey could be conducted of a random sample of SC businesses. A sample frame of SC businesses with more than a specified number of employees would have to be acquired. The 1999 National Worksite Health Promotion Survey (NWHPS) used a stratified random sample of organizations with 50 or more employees working at a particular location [27]. This sample frame was taken from the Dun & Bradstreet database of employers. Listings from Dun & Bradstreet are available for a minimum of $300 for up to 5000 employers [28; 29]. Listings include the business address, phone, Standard Industrial Classification (SIC), and number of employees. Such a listing should be requested for businesses' headquarters only, so the survey could be addressed to the Human Resources Department, which is most likely to have the requested information [28]. A list of all businesses in SC is available at no charge to state agencies from the SC Department of Revenue (SC DOR) [30]. This list, however, has no

information about the size of the business and includes only information found on the business license (i.e., the business name and address).

Survey items for worksite indicators #3, #6, and #7 could be based on questions from the NWHPS, which is being used for some of the Healthy People 2010 worksite objectives [27]. Indicator #7 (indoor air laws) is included in this list because SC does not have a state law that prohibits smoking at worksites. Therefore, data on the prevalence of worksite policies may be more informative to the state CVHP.

HeartCheck, developed by the New York State Health Department [31], has been suggested by the CDC for measuring most of the worksite indicators. Although HeartCheck was designed to be administered by a trained interviewer [32; 33], some items could be adapted for surveillance. No plans currently exist to use this instrument in SC.

Health care indicators

As with the worksite indicators, there are no state data sources that measure the policies of managed care organizations or health insurance plans (see Table 5). The proportion of smokers who received advice to quit smoking in the past year (health care indicator #5) is collected by the optional tobacco indicator module of the Behavioral Risk Factor Surveillance Survey (BRFSS), which is used in SC [19].

Table 5: Data Sources for Health Care Indicators
(See Appendix E for details)

Pilot Indicator (abbreviated)*	**Effort required to measure**^	**Type of data available**^^
1. Percent of managed care organizations that adopt CVH primary prevention guidelines	L	T, K
2. Percent of managed care organizations that adopt CVH treatment guidelines	L	T, K
3. Percent of managed care organizations that have policies or guidelines to provide/reimburse for assessments/counseling for physical activity, medical nutrition therapy, and tobacco cessation	M	T, K
4. Percent of health insurance plans that have policies/guidelines to routinely provide/reimburse for assessments and counseling for physical activity, medical nutrition therapy, and tobacco cessation	H	
5. Proportion of current and recent smokers who received advice to quit smoking from a health professional	L	S

* See Appendix A for the full text of pilot indicators.

^ Effort required to measure:
L = low, data readily available
M = medium, surveys available/mechanisms in place
H = high, surveys/mechanisms not available

^^ Type of data available:
T = text of documents, policies, legislation
S = survey data or secondary datasets
K = knowledge source

Although no data sources currently collect information about the policies of managed care organizations (MCOs), the related indicators (health care indicators #1-3) could be relatively easy to assess in SC because only five companies cover 95% of the people with this type health insurance [34]. All five organizations are accredited by the National Committee for Quality Assurance (NCQA), which requires the organizations to adopt policies that incorporate nationally accredited standards [35-37]. In addition, most of the organizations maintain websites on the Internet with descriptions of program features. The Health Plan Employer Data and Information Set (HEDIS) maintained by NCQA collects utilization data for evaluating managed care organizations, not policy data [38].

Because of the small number of companies in SC, telephone interviews could be used to capture relevant information. Standard survey questions would ensure that complete and accurate information is collected about the MCO policies. Note, however, that only about 20% of insured individuals in SC are covered by MCOs [39].

The coverage included in health insurance plans (health care indicator #4) is much more difficult to assess because there are nearly 500 health plans represented in SC [39]. In addition, data collection would be difficult because each company offers numerous plans, each with its own administrator [39]. To measure features of health insurance plans, it is more feasible to focus on companies with the largest enrollment. In SC, for example, Blue Cross/Blue Shield has a 44% share of the accident & health insurance market [40].

Specific survey questions are needed to ensure complete and accurate information is collected about the policies of health insurance plans. Some effort would also be required to create an appropriate sample frame, based on the insurance companies operating in the state.

Discussion

A number of lessons were learned in the course of exploring data sources for SC. These include lessons about the following:

- the amount of time and effort required to learn the language of different policy settings
- the lack of a case definition that defines the indicator and provides objective criteria for measurement
- the limitation of surveys for gathering data
- the different policy levels/information available in each channel
- the cooperation of experts in providing information
- variations in policy implementation

Language: A large percent of the time and effort expended in this project was spent learning the language of the different policy settings. Community planners, schools, worksites, and health insurers, like public health, all have their own language. Some indicators used general wording that is familiar to public health, but may not be clear to people in other fields. Often, repeated phone calls were required to clarify information as more was learned about each indicator and as the investigators' understanding evolved.

Case definition: The language problem was accentuated by the lack of case definitions for the indicators. For example, it is much easier for a county planner to respond to questions about sidewalk policies than about policies that promote recreation facilities. Accurate measurement requires consistent and specific definitions and criteria for measurement.

Survey limitations: Surveys are available that correspond with some of the indicators. For example, school policies are measured by the SHEP and the SHPPS. These tools, however, have limitations. The SHEP does not survey districts and is sent to schools with grade six or higher only. The district and school surveys of the SHPPS are sent to a national probability sample, from which state specific conclusions cannot be made. CDC and the state CVHP may wish to work with the SCDE to review the possibilities for combining the best of these surveys and processes to capture needed information at the district and school levels, to complement information available at the state level.

Using surveys to assess policies at the local level is problematic, however, whether the policies are in communities, worksites, school districts, or schools. Surveys may not have a sufficient response rate (e.g., the response rate for the SHEP has varied from 53% [23] to 71% [24]). In addition, responses may be based on opinion rather than actual policy.

For a more thorough analysis of policies, a trained team of researchers could assess the actual text of policy documents, allowing for a more consistent and objective appraisal of the local policies. The feasibility of this effort depends on the size and number of policies to be reviewed. For example, there are 85 school districts in SC, and each district's tobacco policy is typically one or two pages in length. With a detailed case definition, it would be possible to assess each of these policies. With good baseline data, the CVHP could then track policy changes periodically – either using a survey instrument or by reviewing copies of updated policies. On the other hand, comprehensive land use planning documents are often over 100 pages in length and may be much more complex and time consuming to assess.

Policy levels: It is important for the CDC and CVHP to recognize the different levels at which policy can be enacted. It is generally easy to determine if a specific policy is present at the state level. If it is absent, however, local policies must be assessed. In South Carolina, many state policies take the form of recommendations and models that local jurisdictions (i.e., counties, municipalities, districts, and schools) can follow. For example, the SCDE recommends that all districts and schools develop a competitive food policy based on a sample policy. Districts and/or schools then develop and set their own policy. Because of this, it may be more informative for the CVHP to know what policies exist at the local level. Many of the community indicators take this into account by referring to county and municipal policies.

Cooperation: Generally, the people contacted by the research team about the indicators were helpful and willing to provide information. Some were intrigued by the project and might be willing to help establish ways to measure some of the indicators. Continued cooperation, however, would depend on the effort required and potential for "return" on their "investment" of time and effort.

Policy implementation: In working with policy indicators, it must be remembered that policies may vary in their implementation and enforcement. Some policies are "on the books" but never truly implemented. More effort will be required to understand if policies are being implemented at a given level and to identify the degree required to achieve the desired effect. This may be beyond the scope of the indicator project.

Recommendations

While it will be important to collect indicator data, it will be just as important that the information gathered meets the needs of all parties (CDC and CVHPs). Recommendations in this section, therefore, are directed to the CDC first and then to other states that may embark on a similar venture in the future.

For CDC

The CDC can improve the indicator list and minimize the effort required in each state by taking the following measures:

- Defining a clear purpose for the indicators
- Developing specific wording and operational definitions for the indicators
- Developing criteria for measuring policies beyond simple presence and/or absence
- Accompanying the indicator list with details of known data sources
- Developing new or modify existing surveillance tools

Purpose: Before the indicators can be improved, the CDC and state CVHP must agree on the purpose of the indicators. If the purpose for the CDC is to be able to compare states, then a common wording is essential and a view of state-level policies may be preferable. If, however, the purpose is to give each CVHP the most useful information for monitoring progress, more information may be required at local levels. In addition, the indicators may need to be tailored to the specific context of each state.

Wording and definitions: The list of indicators can be improved by the addition of specific wording and operational definitions. The text of state laws and other policies are available for analysis, but specific wording and operational definitions will aid in determining if the policies match the intent of the indicator. Many of these definitions have been documented (e.g., the elements of a tobacco-free school policy [41]) and should become part of the detailed case definition for the indicators.

Criteria: Measurement criteria should be developed for evaluating the policies beyond mere presence or absence. For example, in a recent analysis of tobacco-free school policies in Oregon, researchers assigned points for each item included from the CDC guidelines [42]. This allowed the researchers to look at the relationship between the level of policy implemented and the level of tobacco use. In fact, their analysis showed that having a tobacco policy was related to lower tobacco use and that higher scoring (and therefore more complete) policies were associated with the lowest levels of tobacco use. As another example, South Carolina requires physical education for elementary and middle school, but the law does not specify the amount of time or number of days per week. Also, because policies are subject to interpretation by those who implement and enforce them, objective criteria for assessing the policies may yield results that are different from individual perceptions of such policies.

Known data sources: The CDC selected some of the indicators because of existing measurement tools (e.g., BRFSS, SHPPS, and SHEP). CDC can help educate the state programs about what is available by including detailed information on these tools (timing, specific questions, etc.) with the indicators. This may save states much time and effort. Information from the South Carolina and Alabama reports should also be shared.

Surveillance tools: The CDC is in a position to create new or enhance existing surveillance tools for collecting information some of these indicators. As mentioned previously, the CDC could undertake a survey of the milk retailers at the national level to find out what percent of milk sales is low fat by state. Questions could also be added to surveys like the BRFSS to ask individuals about policies at their place of work, in their community, or at their school. This approach should be compared with worksite, municipal, and school surveys for cost effectiveness and validity of data.

For other states

States will encounter a number of challenges in collecting data for these policy and environmental indicators:

- a lack of consistency in the type of information available
- variability from channel to channel – in terminology, relevant policy level (state or local), and availability of data
- difficulty engaging sources that are not traditional public health partners
- the potential costs of establishing new data sources (e.g., one-time surveys for baseline data, routine surveys for monitoring)

State CVHPs can prepare for working with policy and environmental indicators by taking the following measures, depending on their prior experience in the four channels:

- Learning the terminology of other fields, such as transportation, education, and land use planning
- Learning what data sources are available at state/national level (e.g., CDC surveys, websites, state policy experts, etc.)
- Obtaining access to Lexis-Nexis or a similar legal database
- Finding and making contact with policy experts in the different settings (e.g., local planners, state bike/pedestrian coordinators, etc.)
- Asking the CDC to help provide contacts (e.g., the people responsible for conducting the BRFSS, SHEP, SHPPS, Healthy Schools programs, etc.)
- Using state agency websites to identify additional contacts and to learn what is available
- Contacting other states that have done similar work (e.g., South Carolina, Alabama, Maine, New York, Utah, and North Carolina)
- Establishing partnerships with organizations that can provide information or that would be interested in obtaining the information

In conclusion

The authors of this report appreciate the opportunity to learn more about community level indicators and the possibility of measuring these indicators in South Carolina. It is hoped that this information will serve as another source of information for the CDC and states to continue to enhance efforts to build a quality source of reliable data for community CVH indicators.

Appendix A: Pilot Indicators for CVH State Surveillance

COMMUNITY

Physical Activity

1. Percent of highway funds devoted to transportation alternatives (e.g., bicycle lanes linked to public transportation, mass transit systems, facilities and roadway changes, supports such as parking hubs and bicycle racks).
2. Percent of counties or municipalities with policies requiring sidewalks in all new and redeveloped residential and mixed-use communities.
3. Percent of counties or municipalities with policies that promote recreation facilities (e.g., bikeways, parks, fields, gyms, pools, tennis courts, and playgrounds) in new and redeveloped residential and mixed-used communities.
4. States policies and percent of counties or municipalities with policies and strategic plans to promote bicycle use for transportation purposes.

Nutrition

5. Percent of milk sales in the State that is low-fat (1% or less).
6. Number of farmers' markets per capita in the State.

Tobacco Control

7. State with laws on smoke-free indoor air that prohibit smoking or limit it to separately ventilated areas in restaurants, day care centers, and other public places.
8. Proportion of smokers who report that smoking is not allowed anywhere inside their home.

SCHOOLS

Physical Activity (Daily PE)

1. State policies that require daily physical education, or its equivalent in minutes per week, for all students in K-12, with no substitution of other courses or activities for physical education.
2. State policies that require schools to assess students on the knowledge and skills specified by the State's physical education standards, frameworks, or guidelines.

Nutrition (Competitive Foods)

3. State policies requiring that the foods and beverages available at schools outside of the school meal programs reinforce the principles of the *Dietary Guidelines for Americans.*

Physical Activity and Nutrition (Certification)

4. State policies that require newly hired school food service managers to have a nutrition-related baccalaureate or graduate degree and certification/credentialing in food service from either the State or the American School Food Service Association.

5. State policies that require all newly hired staff who teach physical education to be certified, licensed, or endorsed by the State to teach physical education.
6. State policies that require all newly hired staff who teach health education to be certified, licensed, or endorsed by the State to teach health education.

Physical Activity, Nutrition, and Tobacco (Health Education)

7. States policies that require schools to assess students on the knowledge and skills specified by the State's health education standards, frameworks, or guidelines.
8. Percent of schools that provide health education instruction that includes the physical education, nutrition, and tobacco use prevention topics, listed in CDC's School Health Index.
9. Proportion of schools with School Health Councils.

Tobacco

10. Proportion of schools that have adopted tobacco-free school policies that meet CDC recommendations.

WORKSITE

Physical Activity

1. Percent of worksites that have policies supporting the engagement of all employees in physical activity during work time, (e.g., flexible scheduling, relaxed dress codes).
2. Percent of worksites that provide showers and changing facilities to support physically active employees.
3. Percent of worksites that provide and promote on-going on-site employee physical activity programs (e.g., walking, stretching, aerobics) during the previous 24 months.

Nutrition

4. Percent of worksites with vending machines and/or snack bars that offer the heart-healthy food and beverage choices, including water or flavored water, 1% or less milk products, 100% juice products, fruits, vegetables, and products labeled low or reduced calorie, low or reduced sodium, and those labeled 3 g. or less of fat per serving.
5. Percent of worksites with cafeterias that offer heart-healthy food and beverage choices including water or flavored water, 1% or less milk products, 100% juice products, fruits, vegetables, and products labeled low or reduced calorie, low or reduced sodium, and those labeled 3 g. or less of fat per serving.
6. Percent of worksites that offer nutrition or weight management classes or counseling.

Tobacco Control

7. States with laws on smoke-free indoor air that prohibit smoking or limit it to separately ventilated areas in government and private worksites.
8. Proportion of worksites (segmented by number of employees) that cover smoking cessation programs.

HEALTHCARE

1. Percent of managed care organizations that adopt a policy to incorporate nationally accredited guidelines (e.g., the *AHA Guide to Primary Prevention of Cardiovascular Diseases*) as part of their standard care package.
2. Percent of managed care organizations that adopt a policy to incorporate nationally accredited guidelines (e.g., the *AHA Guide to Comprehensive Risk Reduction for Patients with Coronary and other Vascular Disease*) as part of their standard care package.
3. Percent of managed care organizations (e.g., health maintenance organizations, independent provider organizations, and preferred provider organizations) that have policies or guidelines to routinely provide or reimburse for assessments and counseling for physical activity, medical nutrition therapy, and tobacco cessation to plan members as part of their standard care package, according to the *Guide to Clinical Preventive Services*.
4. Percent of health insurance plans that have policies or guidelines to routinely provide or reimburse for assessments and counseling for physical activity, medical nutrition therapy, and tobacco cessation to plan members as a covered benefit, according to the *Guide to Clinical Preventive Services.*
5. Proportion of current and recent smokers who received advice to quit smoking from a health professional.

1. Percent of highway funds devoted to transportation alternatives (e.g., bicycle lanes linked to public transportation, mass transit systems, facilities and roadway changes, supports such as parking hubs and bicycle racks).

Comments on the indicator:	This indicator refers to transportation alternatives, but not all transportation alternatives are related to physical activity. A list of specific features of interest is necessary for accurate data collection.
Possible data sources:	No data sources are available to measure this indicator in SC for the overall highway spending [3; 7; 43]. Costs to collect this data are estimated to be high. It is easy, however, to determine the percent of transportation enhancement funds spent in SC on pedestrian and bicycle projects. The National Transportation Enhancements Clearinghouse (NTEC) maintains an enhancements database on all projects funded under the Federal Transportation Enhancements Programs since 1993 [5]. Information in this database is categorized by state, year, and enhancement type.
Measurement considerations:	The SC Department of Transportation (SC DOT) does not itemize highway spending into the categories specified in this indicator [3; 7; 43]. Although it would be easy to get figures on mass transit, costs of the other items (bike lanes and sidewalks and other alternatives) would be more difficult if not impossible to get. Other than the TEA21 enhancement projects, this type of work would be done as part of larger construction contracts, and if these costs are not clearly broken out, it would be nearly impossible to figure, i.e., the time and effort would be prohibitive [3]. Spending on enhancements could be used as a proxy for this measure. This Federal program is available in all states and the data is tracked and reported regularly.
Baseline data:	According to NTEC, 32% of the enhancements money spent in SC in 2000 (combined Federal and State) was spent for pedestrian and bicycle facilities, such as sidewalks and trails [5].

2. Percent of counties or municipalities with policies requiring sidewalks in all new and redeveloped residential and mixed-use communities.

Comments on the indicator:	This indicator is specific and measurable.
Possible data sources:	No data are currently being collected for this indicator [7; 9]. The effort required to collect the data is estimated to be medium to high.
Measurement considerations:	Planning in SC is done at the county level, municipal level, or joint county-municipal level. Measurement of this indicator would require a survey of each planning department, asking about their sidewalk policies. The SC Local Government Comprehensive Planning Enabling Act of 1994 requires government entities that intend to do planning to create a comprehensive plan [16]. There is no official central repository, however, for completed plans, although several agencies (e.g., SC DOT, SC DNR) have their own collection of planning documents from across the state. A list of local planning commissions could be created with the help of the Landscape and Planning Department at Clemson University and the SC Chapter of the American Planning Association [9]. The Utah Cardiovascular Health Alliance sent a simple survey to all municipalities in Utah [6]. One set of questions asked respondents if they had ordinances requiring paved sidewalks in new communities, in redeveloped residential communities, and in mixed-use communities. They used the American Association of State Transportation Highway Officials definition of sidewalks as "the portion of a highway, road, or street intended for pedestrians" [44].

3. Percent of counties or municipalities with policies that promote recreation facilities (e.g., bikeways, parks, fields, gyms, pools, tennis courts, and playgrounds) in new and redeveloped residential and mixed-used communities.

Comments on the indicator:	This indicator should be accompanied by operational definitions of policies that "promote" recreation facilities and a list of relevant recreation facilities.
Possible data sources:	No data are currently being collected for this indicator [7; 8]. The effort required to collect the data is estimated to be medium to high.
Measurement considerations:	See measurement considerations for indicator 1. Data on recreation policies could also be solicited from local planning organizations. In addition, the SC Department of Parks, Recreation, and Tourism and the State Recreation and Park Association periodically conduct a state parks and recreation inventory survey [8]. The survey is sent to individuals in charge of park and recreation departments around the state. It may be possible to add questions to this survey to collect information for this indicator or to use their list of responsible individuals. The Utah Cardiovascular Health Alliance sent a simple survey to all municipalities in Utah [6]. One set of questions asked respondents if they had ordinances requiring recreation facilities in new communities, in redeveloped residential communities, and in mixed-use communities. They used the National Recreation and Parks Association for facilities, which includes "neighborhood parks, school-parks, community parks, park trails, connector trails, and the like" [44].

4. State policies and percent of counties or municipalities with policies and strategic plans to promote bicycle use for transportation purposes.

Comments on the indicator:	This indicator should be accompanied by operational definitions of policies that "promote" bicycle use for transportation purposes.
Possible data sources:	State laws and policies are searchable on the Internet [16; 21]. No data are currently being collected for county or municipal policies [7; 9]. The effort required to collect this data is estimated to be medium to high.
Measurement considerations:	See measurement considerations for community indicator 1. Data on bicycle policies could also be solicited from local planning organizations.
Baseline data (state level):	The state has no laws that promote bicycle use for transportation purposes [16; 21].

5. Percent of milk sales in the State that is low-fat (1% or less).

Comments on the indicator:	Sales data is a proxy measure of consumption behavior. It is not a true environmental or policy indicator.
Possible data sources:	No easily accessible data are currently being collected for this indicator [10; 12]. The effort required to collect the data is estimated to be high.
Measurement considerations:	To collect this data, it would be necessary to survey the corporate headquarters of major milk outlets in the state (e.g., grocery stores, discount chains (like Walmart, Kmart, Sams), and convenience stores. Efforts to access this information have not been successful. Stores are unwilling to share business information [13; 14]. It is recommended that the CDC investigate the possibility of acquiring this data. Because the information is collected in corporate offices of national chains, a single data request from the CDC would present less of a burden on the companies than individual requests from 50 states.

6. Number of farmers' markets per capita in the State.

Comments on the indicator:

Farmers' markets vary in size, frequency of operation, and products sold. For example, some small markets consist of one farmer who sells produce one day a week through the summer months. Other markets, like the three SC state markets, are open all year and sell much more than fresh produce (e.g., Christmas trees in winter, bedding plants in spring, crafts, etc.). In addition, some roadside farm stands sell as much produce as some farmers' markets and are open all year. Each state has its own regulations for farmers' markets.

Additionally, since the number of markets says nothing about location and accessibility, number of markets per square mile may be preferable to number per capita.

Possible data sources:

The USDA maintains a National Directory of Farmers' Markets on the Internet [15], based on information received from state Departments of Agriculture [45].

Comments on the data source:

In addition to the information available at the USDA website, the SC Dept. of Agriculture website lists 100 roadside stands [46]. The department also maintain a list of all markets that accept the USDA vouchers (for WIC participants and older adults). The SC Department of Agriculture periodically canvases all the counties in the state to update their list of markets, which they send to the USDA [47].

Baseline data:

The USDA Farmers' Market Directory lists 34 farmers' markets in SC. Using this figure, divided by the population of the state in 2000 [48] yields 34/4,012,012 or 0.85 per 100,000 people.

7. States with laws on smoke-free indoor air that prohibit smoking or limit it to separately ventilated areas in restaurants, day care centers, and other public places.

Comments on the indicator:	This indicator is specific and measurable.
Possible data sources:	The STATE system is available on the web and summarizes state tobacco policies for each state and includes a citation for the relevant section of the law [17]. The STATE system categorizes where the law applies. Section 44-95-20 of the SC Clean Indoor Air Act of 1990 specifies where smoking is prohibited and is available on the Internet [16].
Comments on the data source:	The STATE system is updated quarterly, based on a search of the Lexis-Nexis online legal database. More details are available in the text of the state law, which is updated at the end of each legislative session. It may be more informative if states use a scoring scheme to rate policies, e.g. giving points for restrictions at each location (restaurants, day care, etc.) depending on the level of restriction (no restriction, smoking in designated areas, smoking in separate ventilated areas, smoking banned). This information is available in the STATE database [17].
Baseline data:	Section 44-95-20 of the SC Clean Indoor Air Act of 1990 prohibits smoking in public schools and pre-schools, licensed day-care centers, health care facilities, government buildings, elevators, public transportation vehicles (except taxicabs), arenas and auditoriums. Enclosed private offices and break areas are exempted from these regulations. School boards and health care facilities may make more restrictive policies. Restaurants are not covered in the SC legislation [16].

8. Proportion of smokers who report that smoking is not allowed anywhere inside their home.

Comments on the indicator:	This is a clear and measurable indicator of an individual's home environment.
Possible data sources:	A question in the 2001 BRFSS optional module "Tobacco Indicators," asks respondents if smoking is allowed nowhere in their home, in some places, anywhere, or if there are no rules about smoking in their home [19].
Comments on the data source:	The Tobacco Use Prevention Module (which predated the Tobacco Indicator module) was used in 20 states in 2000 (including SC) [19]. CDC must consider how many states plan to use this module and how often the data should be collected.
Baseline data:	Data from the 2001 BRFSS will be available from DHEC in 2002.

1. State policies that require daily physical education (PE), or its equivalent in minutes per week, for all students in K-12, with no substitution of other courses or activities for physical education.

Comments on the indicator:	Policies may be set at district rather than state level. The indicator should specify the recommended number of minutes per week that would be considered equivalent to daily physical education.
Possible data sources:	School Health Policy and Program Study (SHPPS): The state questionnaire asks if the state requires PE and, if so, how much PE is required, and if and what type of exemptions are allowed for elementary, middle/junior high, and senior high schools [20]. SC Code of Law: Chapter 59-29 of the state law describes the subjects that must be taught in public schools [16]. SC Code of Regulations: Section 43 of the state regulations documents the official policy of the State Board of Education. This includes requirements about PE instruction [21]. SC Department of Education PE Standards: South Carolina Physical Education Curriculum Standards are based on the national standards enumerated in NASPE 1995 [49].
Comments on the data sources:	The SHPPS provides a quick summary of state policy. Data from the 2000 Survey are available from CDC. Details can be found in the text of the state laws and the SCDE PE standards. Because policies are left up to the districts and schools, a local data source may be more informative.
Baseline data:	PE is one of the required subjects in grades 1-8 and PE or junior ROTC is required in grades 9-12 [21]. In secondary school, PE is required to occur over two semesters (a one-semester lifetime fitness component and a one-semester personal fitness and wellness component) [16]. No minimum time requirement is included for any school subject [16; 21]. Although the national standards recommend daily PE, SC schools currently do not allocate sufficient time to meet national standards [50].

2. State policies that require schools to assess students on the knowledge and skills specified by the State's physical education (PE) standards, frameworks, or guidelines.

Comments on the indicator:	Specific criteria are needed to measure this indicator.
Possible data sources:	State Code of Laws: Section 59-18 of the state law is the Education Accountability Act of 1998. State Department of Education PE Standards: Assessment is included as an integral part of the SCDE PE standards [50], however, each school has its own standards for grading PE [49]. School Health Policy and Program Study (SHPPS): The state questionnaire asks about state requirements or recommendations on student assessment of PE for elementary, middle/junior high, and senior high schools.
Comments on the data source:	The SHPPS provides a quick summary of state policy. Details would be found in the SCDE PE standards. Continued assessment of PE on the school report cards will depend on the support of the legislature and availability of funding to conduct the assessment. Because policies are left up to the districts and schools, a local data source may be more informative.
Baseline data:	Assessment is part of the PE standards, but the method of assessment is left up to individual schools and districts [49]. The Education Accountability Act of 1998, requires the State Board of Education to develop a statewide assessment program to measure student performance on state standards [16]. The law requires assessment for English/language arts, mathematics, science, and social studies, which will appear on the School Report Cards. The law includes a statement that "while assessment is called for in the specific areas mentioned above, this should not be construed as lessening the importance of foreign languages, visual and performing arts, health, physical education, and career/occupational programs." Procedures for assessing student performance in physical education have been developed by the South Carolina Alliance for Health, Physical Education, Recreation, and Dance (SCAHPERD) in conjunction with the South Carolina Department of Education. These measures are not intended for individual student feedback, but will be used for program assessment and to provide some accountability on the School Report Cards. Beginning with the 2001-2002 school year, PE assessments will occur in 1/3 of schools per year [49].

3. State policies requiring that the foods and beverages available at schools outside of the school meal programs reinforce the principles of the *Dietary Guidelines for Americans*.

Comments on the indicator:	Specific criteria are provided to measure this indicator (see note below).
Possible data sources:	School Health Policy and Program Study (SHPPS): The state questionnaire asks about the policies on the availability and prohibition of junk foods outside of the school meal programs [20]. The SCDE has policy experts in the Office of Food Services and Nutrition who are familiar with the current status of policies related to school food services [51].
Comments on the data source:	The SHPPS provides a quick summary of state policy. Details would be found in the SCDE policies. Because the current state policy is non-binding, schools and districts are at liberty to develop their own policies that may not conform to recommendations. A local data source may be more informative.
Baseline data:	According to the SCDE, Office of Food Services and Nutrition, the 1990 Appropriations Act required the State Board of Education to develop nutrition policies for foods available to students during the school day, based on the *US Dietary Guidelines for Americans* and the nutritional requirements of the National Child Nutrition Program [51]. Local school districts and school food service programs are urged to adopt the nutrition policy of the State Board of Education. The State Board of Education has developed a model policy for competitive food sales. SCDE tries to keep track of current school and district policies, but has no mechanism to do so.

Note from CDC: Operationalized in an instrument that would assess one or more of the following:

a. State policies that require a substantial proportion of the foods and beverages offered for sale outside of the school meal program meet specified nutrition standards
b. State policies that prohibit the sale of low-nutritive snack choices (such as soda, fried chips, and candy), on school campuses.
c. State policies that prohibit the sale and distribution of foods and beverages of low nutritional value in elementary schools; and states policies that restrict foods and beverages of low nutritional value for sale and distribution in secondary schools until after the end of the last lunch period.

4. State policies that require newly hired school food service managers to have a nutrition-related baccalaureate or graduate degree and certification/credentialing in food service from either the State or the American School Food Service Association.

Comments on the indicator:	A definition of "school food service managers" may be required. In SC, districts have "food service directors" and schools have "cafeteria managers" or "food service assistants."
Possible data sources:	The SCDE has policy experts in the Office of Food Services and Nutrition who are familiar with the current status of policies related to school food services [51]. School Health Policy and Program Study (SHPPS): The state questionnaire asks about the minimum education and credentials, licensure, or endorsement for newly-hired district food service coordinators and for school food service managers [20].
Comments on the data source:	The SHPPS provides a quick summary of state policy. Details would be found in the SCDE policies. A local data source may provide more informative data.
Baseline data:	According to the SCDE, Office of Food Services and Nutrition, SC has no state policy requiring degrees or credentials for school food service personnel [51]. SCDE recommends 10 hours of training for school-level personnel and 20 hours of training for district-level personnel during their first year of employment. Continuing education is recommended for each additional year of employment. It is suggested that food service assistants receive 5 hours a year, cafeteria managers receive 10 hours a year, and district directors receive 15 hours a year of additional training. This policy is not mandatory and is only suggested. District policies vary. Some school districts provide pay raises for certification with the American School Food Service Association [51].

5. State policies that require all newly hired staff who teach physical education (PE) to be certified, licensed, or endorsed by the State to teach physical education.

Comments on the indicator:	Specific and measurable indicator.
Possible data sources:	School Health Policy and Program Study (SHPPS): The state questionnaire asks if states have adopted policies requiring certification, licensure, or endorsement of new hires to teach PE at the elementary, middle/junior high, or senior high levels [20]. Chapter 43 of the state regulations contains the official policies of the State Board of Education [21]. This chapter also documents the requirements for certification in PE.
Comments on the data source:	The SHPPS provides a quick summary of state policy. Details are found in the SCDE policies.
Baseline data:	Chapter 43 of the state regulations states that schools must not have more than 10% of classroom instruction time taught by teachers in subject areas in which they are not properly certified [21]. In addition, schools with any combination of grades 1-6 shall employ specialists in physical education based on the number of students in the school. For example, with 800 or more students, a school must have a full time PE teacher.

6. State policies that require all newly hired staff who teach health education to be certified, licensed, or endorsed by the State to teach health education.

Comments on the indicator:	Specific and measurable indicator.
Possible data sources:	School Health Policy and Program Study (SHPPS): The state questionnaire asks if states have adopted policies requiring certification, licensure, or endorsement of new hires to teach HE at the elementary, middle/junior, or senior high levels [20]. Chapter 43 of the state regulation contains the official policies of the State Board of Education [21]. This chapter also documents the requirements for certification in health education.
Comments on the data source:	The SHPPS provides a quick summary of state policy. Details would be found in the SCDE policies.
Baseline data:	Chapter 43 of the state regulations states that schools must not have more than 10% of classroom instruction time taught by teachers in subject areas in which they are not properly certified [21].

7. State policies that require schools to assess students on the knowledge and skills specified by the State's health education standards, frameworks, or guidelines.

Comments on the indicator:	Specific criteria are needed to measure this indicator.
Possible data sources:	School Health Policy and Program Study (SHPPS): The state questionnaire asks if the state has policies on student assessment of health education in elementary, middle/junior high, and senior high schools. The SCDE Health and Safety Education Standards are available on the Internet [52].
Comments on the data source:	The SHPPS provides a quick summary of state policy. Details would be found in the SCDE policies. A local data source may provide more informative data.
Baseline data:	State Department of Education Health and Safety Education Standards: Assessment is included as an integral part of the SCDE standards [52], however, each school has its own standards for grading [49]. SC School Report Cards: Procedures for assessing student performance in health education are being developed by the South Carolina Department of Education [26]. These measures not intended for individual student feedback, but will be used for assessing programs and for providing accountability on the school report cards. Data collection is planned for the 2002-2003 report card.

8. Percent of school districts that implement a health education curriculum that includes physical activity, nutrition, and tobacco use prevention topics listed in CDC's School Health Index.

Comments on the indicator:	The list of topics included in the School Health Index (SHI) is quite long and detailed.
Possible data sources:	No data are currently being collected for this indicator [26]. The effort required for data collection is estimated to be medium to high.
Measurement considerations:	SHI: The SHI asks respondents to identify physical activity and nutrition topics taught from a list of topics [25]. A new version is being tested that will incorporate tobacco use. The SHI, however, is designed not as a survey, but as a self-study instrument. The SCDE has no plans to require all schools to use the instrument [26]. The item related to this indicator asks respondents to indicate which of the listed topics are included in each area. Each list has 15 to 20 items [25]. The items could be added to the SHEP, but this may be placing too large a burden on respondents [26]. SHPPS: The state questionnaire asks if the health education curriculum include physical activity and fitness, nutrition and dietary behaviors, and tobacco use prevention [20]. It does not go into further detail.

9. Percent of schools with School Health Councils (available from School Health Education Profiles).

Comments on the indicator:	The indicator is clear and measurable.
Possible data sources:	The 2000 SHEP survey sent to school principals asked if the "school or school district have a school health committee or advisory group that develops policies, coordinates activities, or seeks student and family involvement in programs that address health issues" [23].
Comments on the data source:	The SHEP is sent only to middle and high schools. The 2000 survey had a 53% response rate for the survey of school principals [23].
Baseline data:	In the 2000 SHEP, 58% of responding principals indicated that their school had a school health committee or advisory group [23].

10. Proportion of school districts that have adopted tobacco-free school policies that meet CDC recommendations.

Comments on the indicator:	Specific criteria need to be specified to measure this indicator.
Possible data sources:	Current surveys do not adequately measure this indicator. The effort to collect the data is estimated at medium to high.
Measurement considerations:	SHPPS: The tobacco use prevention module of the district questionnaire asks a series of questions that thoroughly assess this indicator [20]. This survey is not sent to a sufficient number of districts to draw state-level conclusions, however. SHEP: The SHEP measures school level rather than district policy [24]. The tobacco policy features included in the survey (no smoking by students, no smoking by staff, no tobacco promotional products used, posted as tobacco-free zone) do not cover all aspects of a tobacco-free school. The SHEP could be modified to use the questions from SHPPS, if an assessment of school tobacco policy is required. According to a 1994 survey of schools, 94% of responding schools indicated they had a tobacco use policy at the district level and 63% had a tobacco use policy at the school level [53]. No details were asked about the contents of these policies. The response rate for this survey of 1000 schools was 42%.

1. Percent of worksites that have policies supporting the engagement of all employees in physical activity during work time, (e.g., flexible scheduling, relaxed dress codes).

Comments on the indicator:	This indicator is too general in its wording. A specific operational definition of "supportive" policies is needed. In addition, the phrase "during work time" is problematic. This might be taken to mean "on paid company time." The phrase used in the HeartCheck instrument – "during off hours (lunch)" – is more likely to match current policies.
Possible data sources:	No data are currently being collected for this indicator [54; 55]. Effort to collect the data is estimated to be high.
Measurement considerations:	A survey would be required of a random sample of SC employers. New York's HeartCheck instrument asks if the worksite "has a written policy statement supporting employee physical fitness" with an example provided that mentions "policies that allow workers additional time off from lunch to exercise, walk breaks, stretching" [31]. This may need a more specific definition to get meaningful data. The CDC's BRFSS could include questions that ask individuals if their worksites offer these programs.
Baseline data:	According to a 1994 survey of SC worksites, 15% of responding worksites indicated they had a formal written policy that "supports and encourages exercise & physical activity" [53]. No details were asked about the contents of these policies. The response rate for this survey of 1000 worksites was 34%.

2. Percent of worksites that provide showers and changing facilities to support physically active employees.

Comments on the indicator:	This indicator is more specific than the first and therefore much easier to measure. In addition to the phrase "to support physically active employees," it would be advisable to include "or employees who walk or bicycle to work" because employers may not immediately think of that as supporting physical activity.
Possible data sources:	No data are currently being collected for this indicator [54; 55]. Effort to collect the data is estimated to be high.
Measurement considerations:	A survey would be required of a random sample of SC employers. New York's HeartCheck instrument asks if the worksite "provides a shower and changing facility for employees who want to walk/bike/run to work or exercise during off hours (lunch)" [31]. If the respondent says yes, follow up questions ask for more details. These questions could be modified to measure this indicator. The CDC's BRFSS could include questions that ask individuals if their worksites offer these programs.
Baseline data:	According to a 1994 survey of SC worksites, 15% of responding worksites indicated they had a formal written policy that "supports and encourages exercise & physical activity" [53]. No details were asked about the contents of these policies. The response rate for this survey of 1000 worksites was 34%.

3. Percent of worksites that provided and promoted on-going on-site employee physical activity programs (e.g., walking, stretching, aerobics) during the previous 24 months.

Comments on the indicator:	Using the phrase "on-going, on-site" in this indicator restricts the ability to include worksites that offer periodic programs or offer programs off site. It would be better to use wording from Health People 2010 Objective 22-13: "Increase the proportion of worksites offering employer-sponsored physical activity and fitness programs."
Possible data sources:	No data are currently being collected for this indicator [54; 55]. Effort to collect the data is estimated to be high.
Measurement considerations:	A survey would be required of a random sample of SC employers. The 1999 NWHP (which is being used for baseline data for this HP 2010 objective) included two items that could be modified for use in state surveys to measure this indicator [27]. One item asked if the site offered physical activity and/or fitness programs; the other asked if the site offered such programs through one of its health plans. New York's HeartCheck instrument asks worksites if they have promoted or provides "insurance company sponsored fitness oriented programs for employees other than the use of an exercise facility in the previous 24 months" [31]. The CDC's BRFSS could include questions that ask individuals if their worksites offer these programs.
Baseline data:	According to a 1994 survey of SC worksites, 15% of responding worksites indicated they had a formal written policy that "supports and encourages exercise & physical activity" [53]. No details were asked about the contents of these policies. The response rate for this survey of 1000 worksites was 34%.

4. Percent of worksites with vending machines and/or snack bars that offer heart-healthy* food and beverage choices, including water or flavored water, 1% or less milk products, 100% juice products, fruits, vegetables, and products labeled low or reduced calorie, low or reduced sodium, and those labeled 3 grams or less of fat per serving.

Comments on the indicator:	This indicator is specific and measurable.
Possible data sources:	No data are currently being collected for this indicator [54; 55]. Effort to collect the data is estimated to be high.
Measurement considerations:	A survey would be required of a random sample of SC employers. New York's HeartCheck instrument asks worksites with vending machines to indicate which of a list of items can be found in their vending machines [31]. Depending on the length of the list, this may present a burden to the respondent that would limit the response rate.
Baseline data:	According to a 1994 survey of SC worksites, 15% of responding worksites indicated they had a formal written policy that "supports and encourages healthy eating habits" [53]. No details were asked about the contents of these policies. The response rate for this survey of 1000 worksites was 34%.

* The American Heart Association has sponsored a program since 1995 to help consumers identify heart healthy foods. The Food Certification Program was implemented in partnership with the Food and Drug Administration to help consumers make food selections. The following program guidelines are based on a single serving of the food product and follow FDA guidelines:

- Low fat: less than or equal to 3 grams/reference amount
- Low saturated fat: less than or equal to 1 gram/ reference amount
- Low cholesterol: less than or equal to 20 milligrams/reference amount
- Have sodium value of less than or equal to 360 milligram/reference amount for individual foods
- Must contain at least 10 per cent of the Daily Value of one or more of these nutrients:
  Protein, vitamin A, Vitamin C, calcium, iron or dietary fiber
- Special levels for the above criteria are also in place for main dishes and meals.

5. Percent of worksites with cafeterias that offer heart-healthy* food and beverage choices including water or flavored water, 1% or less milk products, 100% juice products, fruits, vegetables, and products labeled low or reduced calorie, low or reduced sodium, and those labeled 3 grams or less of fat per serving.

Comments on the indicator:	This indicator is specific and detailed.
Possible data sources:	No data are currently being collected for this indicator [54; 55]. Effort to collect the data is estimated to be high.
Measurement considerations:	A survey would be required of a random sample of SC employers. New York's HeartCheck instrument asks worksites with cafeterias to indicate which of a list of items are available daily in the cafeteria [31].
Baseline data:	According to a 1994 survey of SC worksites, 15% of responding worksites indicated they had a formal written policy that "supports and encourages healthy eating habits" [53]. No details were asked about the contents of these policies. The response rate for this survey of 1000 worksites was 34%.

* The American Heart Association has sponsored a program since 1995 to help consumers identify heart healthy foods. The Food Certification Program was implemented in partnership with the Food and Drug Administration to help consumers make food selections. The following program guidelines are based on a single serving of the food product and follow FDA guidelines:

- Low fat: less than or equal to 3 grams/reference amount
- Low saturated fat: less than or equal to 1 gram/ reference amount
- Low cholesterol: less than or equal to 20 milligrams/reference amount
- Have sodium value of less than or equal to 360 milligram/reference amount for individual foods
- Must contain at least 10 per cent of the Daily Value of one or more of these nutrients:
  Protein, vitamin A, Vitamin C, calcium, iron or dietary fiber
- Special levels for the above criteria are also in place for main dishes and meals.

6. Percent of worksites that offer nutrition or weight management classes or counseling.

Comments on the indicator:	This indicator corresponds directly to Healthy People 2010 Objective 19-16.
Possible data sources:	No data are currently being collected for this indicator [54; 55]. Effort to collect the data is estimated to be high.
Measurement considerations:	A survey would be required of a random sample of SC employers. The 1999 NWHP (which is being used for baseline data for this HP 2010 objective) included two items that could be modified for use in state surveys to measure this indicator [27]. One item asked if the site offered nutrition education or weight management classes or counseling; the other asked if the site offered such programs through one of its health plans. New York's HeartCheck instrument includes two items that ask worksites if they "provided directly or promoted insurance company sponsored weight control programs" or "healthy eating programs" [31].

7. States with laws on smoke-free indoor air that prohibit smoking or limit it to separately ventilated areas in government and private worksites.

Comments on the indicator:	This indicator is a clear and easily measured.
Possible data sources:	The STATE system is available on the web and summarizes state tobacco policies for each state and includes a citation for the relevant section of the law [17]. The STATE system categorizes where the law applies. Section 44-95-20 of the SC Clean Indoor Air Act of 1990 specifies where smoking is prohibited and is available on the Internet [16].
Comments on the data sources:	The STATE system is updated quarterly, based on a search of the Lexis-Nexis online legal database. It may be more informative if states use a scoring scheme to rate policies, e.g. giving points for restrictions at each location (government and private worksites) depending on the level of restriction (no restriction, smoking in designated areas, smoking in separate ventilated areas, smoking banned). This information is available in the STATE database [17]. Because SC does not prohibit smoking at worksites, surveys conducted to measure the other worksite indicators should also ask if the site has smoke-free work environment policies. This would tie directly to Healthy People 2010 Objective 27-12. The 1999 NWHP (which is being used for baseline data for this HP 2010 objective) asked worksites if they "have a formal policy that prohibits or severely restricts smoking at the worksite/on the job" [27].
Baseline data:	Section 44-95-20 of the SC Clean Indoor Air Act of 1990 specifies that smoking is prohibited in government worksites [16]. Enclosed private offices and break are excepted from these regulations. The law does not apply to private worksites. According to a 1994 survey of SC worksites, 53% of responding worksites indicated they prohibited smoking anywhere inside the worksite, and 32% said that smoking was permitted only in designated indoor areas [53]. The response rate for this survey of 1000 worksites was 34%.

8. Proportion of worksites (segmented by number of employees) that cover smoking cessation programs.

Comments on the indicator:	This indicator is clear and measurable.
Possible data sources:	No data are currently being collected for this indicator [54; 55]. Effort to collect the data is estimated to be high.
Measurement considerations:	A survey would be required of a random sample of SC employers. New York's HeartCheck instrument has two questions that could be used to measure this indicator [31]. One asks about incentives for being a nonsmoker or quitting smoking. The other asks if they provide smoking cessation programs (directly or through an insurance company program). Follow-up questions ask for details about any programs provided. These could be modified to measure this indicator.

1. Percent of managed care organizations that adopt a policy to incorporate nationally accredited guidelines for primary prevention of cardiovascular diseases, e.g., the *AHA Guide to Primary Prevention of Cardiovascular Diseases,* as part of their standard care package.

Comments on the indicator:	The number of organizations does not reflect the number of covered lives. For example, only 20% of the insured population of SC is covered by managed care plans [39], 95% of whom are covered by one of five organizations [34].
Possible data sources:	National Committee for Quality Assurance (NCQA) accredits managed care organizations and requires the organizations to adopt policies that incorporate nationally accredited standards for care [37; 56]. It should be noted that these guidelines are recommendations for the providers. A list of accredited managed care organizations can be found on the NCQA website [56].
Comments on the data sources:	Because only five companies in SC cover 95% of people enrolled in MCOs, it is easy to call the company to discuss their policies. This may be more difficult in other states.
Baseline data:	In SC, 95% of people enrolled in managed care are covered by one of five organizations. All of these organizations are accredited through the NCQA, which requires the organizations to adopt policies that incorporate nationally accredited standards for care [37; 56].

2. Percent of managed care organizations that adopt a policy to incorporate nationally accredited guidelines, e.g., the *AHA Guide to Comprehensive Risk Reduction for Patients with Coronary and other Vascular Disease,* as part of their standard care package.

Comments on the indicator:	See comments for health care indicator #1.
Possible data sources:	National Committee for Quality Assurance (NCQA) accredits managed care organizations and requires the organizations to adopt policies that incorporate nationally accredited standards for care [37; 56]. It should be noted that these guidelines are recommendations for the providers. A list of accredited managed care organizations can be found on the NCQA website [56].
Comments on the data sources:	Because only five companies in SC cover 95% of people enrolled in MCOs, it is easy to call the company to discuss their policies. This may be more difficult in other states.
Baseline data:	In SC, 95% of people enrolled in managed care are covered by one of five organizations. All of these organizations are accredited through the NCQA, which requires the organizations to adopt policies that incorporate nationally accredited standards for care [37; 56].

3. Percent of managed care organizations (e.g., health maintenance organizations, independent provider organizations, and preferred provider organizations) that have policies or guidelines to routinely provide or reimburse for assessments and counseling for physical activity, medical nutrition therapy, and tobacco cessation to plan members as part of their standard care package, according to the *Guide to Clinical Preventive Services*.

Comments on the indicator:	See comments on health care indicator #1.
Possible data sources:	Company websites and contacts: Four of the top five HMOs in SC maintain websites that include information about coverage, which includes contact information [57-60]. These companies offer assessment and counseling for physical activity, nutrition, and tobacco cessation through "added value" or "discount" incentive programs for high-risk individuals, not as part of the standard care packages. It is up to the employers who purchase these plans to decide if they will include the options and at what cost.
Comments on the data sources:	Because only five companies in SC cover 95% of people enrolled in MCOs, it is easy to review information on their websites or to call the company to discuss their policies. Information on the Internet may not be as reliable as talking to someone in the company. This may be more difficult in other states.

4. Percent of health insurance plans that have policies or guidelines to routinely provide or reimburse for assessments and counseling for physical activity, medical nutrition therapy, and tobacco cessation to plan members as a covered benefit, according to the *Guide to Clinical Preventive Services*.

Comments on the indicator:	The number of health insurance plans does not reflect the number of covered lives.
Possible data sources:	No data are currently being collected for this indicator in SC [39]. The effort required to collect the data is estimated to be high.
Measurement considerations:	To measure this indicator, it would be necessary to survey the administrators of all plans at each carrier to find out if they cover these features [39]. It may be difficult to identify the number of plans at each company to develop an appropriate sampling frame. An alternative is to focus on plans in the companies that serve the majority of people in the state. In SC, that would include companies like Blue Cross/Blue Shield.

5. Proportion of current and recent smokers who received advice to quit smoking from a health professional.

Comments on the indicator:	Asking individuals if they have received advice to quit smoking is a reasonable proxy for the number of professionals who offer that advice.
Possible data sources:	2001 BRFSS optional module "Tobacco Indicators," item 5 asks respondents if they have received advice to quit smoking from a health professional (only if they have smoked and have seen a health professional in the past year) [19].
Comments on the data sources:	The data item is asked only of those who have seen a health professional in the past year. The Tobacco Use Prevention Module (which predated the Tobacco Indicator module) was used in 20 states in 2000 (including SC). CDC must consider how many states plan to use this module and how often the data should be collected.
Baseline data:	Data from the 2001 BRFSS will be available from DHEC in 2002.

This section contains a description of the following data sources (listed in alphabetical order):

- Behavioral Risk Factor Surveillance Survey (BRFSS)
- Enhancements Database
- HeartCheck
- National Worksite Health Promotion Survey
- SC Code of Laws and SC Code of Regulations
- SC Department of Education Curriculum Standards
- SC Department of Education Policy
- School Health Education Profile (SHEP)
- School Health Index (SHI)
- School Health Policies and Programs Study (SHPPS)
- State Tobacco Activities Tracking and Evaluation System (STATE)
- Utah Active Community Environments Policy Survey

Behavioral Risk Factor Surveillance Survey (BRFSS) [19]

Indicators: Community indicator #8, health care indicator #5

Contents: The optional Tobacco Indicators module in the 2001 BRFSS asks all individuals if smoking is allowed in their home and asks smokers who have seen a health care provider in the past year if they received advice to quit smoking.

Maintained by: CDC, SC DHEC

Updated: Annually

Access: The survey is available on the Internet at http://www.cdc.ogv/nccdphp/brfss. Data from the 2001 BRFSS will be available from DHEC in 2002.

Enhancements Database [5]

Indicators: Community indicator #1 – transportation funds for alternative transportation (only those funded by TEA-21)

Contents: Database of all transportation enhancements programs with matching federal money since 1993. Includes state, year, project name, enhancement category (created by ISTEA and TEA-21), bike/pedestrian facility subtype, county, federal money, state matching funds, and total funding. Summary information is available on the web that does not include bike/pedestrian subtype. Additional reports are available on request from NTEC at no charge.

Maintained by: The National Transportation Enhancements Clearinghouse (NTEC) which is sponsored by the Federal Highway Administration and the Rails-to-Trails Conservancy

Updated: Annually from data provided by the enhancements coordinator in each state

Access: Data are available on the Internet at www.enhancements.org

HeartCheck [31-33]

Indicators: Worksite indicators #1-6, and 8

Contents: The HeartCheck instrument measures worksite policies, services and facilities that support employee heart health.

Maintained by: NY Department of Health

Updated: HeartCheck is designed to be conducted by trained interviewers. It is not currently in use in SC.

Access: A copy of the survey can be obtained from the NY Department of Health.

National Worksite Heath Promotion Survey (NWHPS) [27]

Indicators: Worksite indicators #3, #6, and #7

Contents: The survey is conducted through a computer-assisted telephone interview (CATI) to a national sample of private sector worksites with 50 or more employees. It includes questions about the employer's health risk and prevention programs and policies provided to their employees; use of health plans for current and future health promotion delivery; delivery mechanisms, cost sharing and incentives; and disease- and demand-management programs and trends. Overall response rate was 60% in 1999.

Maintained by: Association for Worksite Health Promotion (AWHP), the U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP), and William M. Mercer, Incorporated.

Updated: The survey was administered from November 1998–August 1999. There are plans to repeat this survey at least twice between 2001 and 2007 to obtain updates for the Healthy People 2010 objectives that target worksite health promotion programs. It is not administered to a sample of sufficient size to make state level conclusions.

Access: Information about the survey can be obtained through the Internet at http://www.awhp.org

SC Code of Laws [16] and **SC Code of Regulations** [21]

Indicators: All State-level policy indicators, i.e., community indicator #7, worksite indicator #7, and school indicators #1-7

Contents: The complete text of the SC Code of Laws and the Code of Regulations are available on the Internet. As of September 2001, they were updated through the end of the 2000 legislative session.

Maintained by: Legislative Printing and Information Technology Systems

Updated: Annually at the end of the legislative session (January)

Access: Internet web site http://www.scstatehouse.net/code/statmast.htm for the Code of Laws and http://www.scstatehouse.net/coderegs/statmast.htm for the Code of Regulations

SC Department of Education Curriculum Standards [50; 52]

Indicators: School indicators #1 and #8

Contents: Curriculum standards for health and physical education are being developed to incorporate national standards. The health education standards document describes learning objectives to be achieved by the end of grades 5, 8, and 12. Standards for the remaining grades are under development. The physical education curriculum standards include benchmarks to be achieved for each standard in five grade ranges (pre-K-K, 1-2, 3-5, 6-8, and 9-12). Both sets of standards include recommendations for student assessment.

Maintained by: SC Department of Education (SCDE)

Updated: As changes are made

Access: Text documents are available in hard copy at the SCDE and at each school and on the Internet at http://www.myscschools.com/offices/cso/Standards_Page.htm. Policy specialists at the SCDE can help find and explain specific policies.

School Health Education Profile (SHEP) [22-24]

Indicators: School indicators #9 and #10

Contents: Surveys are sent to the principal and lead health teacher at all public schools having at least one of the grades 6-12. The SHEP is composed of a set of core questions from the CDC plus additional questions added by the SCDE and DHEC. Because the SHEP goes to schools, items could be incorporated to look at additional school policy, such as those included in the SHPPS. Caution is advised when adding items to these surveys, because principals and teachers have expressed concern at the burden of surveys, in both number and length, they are asked to complete [26].

Maintained by: In South Carolina, the SHEP is conducted every other year by the University of South Carolina School of Public Health for the SCDE.

Updated: Every other year

Access: The survey is available from CDC. Data are available from the SCDE.

School Health Index (SHI) [25]

Indicators: School indicators #8 and #9

Contents: The 2000 edition of the SHI includes items related to supports for physical activity and nutrition. A new edition is in development that will incorporate items about tobacco policy. A separate version is available for elementary and middle/high school use. The SC Healthy Schools program will encourage schools to use the SHI when planning new programs, as both a planning and an evaluation tool, and to report requests to SCDE. There are no plans to ask all schools to complete the SHI [26]. As an in-depth self-study tool, the SHI was not designed for surveillance.

Maintained by: CDC

Updated: As desired by school

Access: The surveys are available on the Internet at http://www.cdc.gov/nccdphp/dash/SHI/index.htm

School Health Policies and Programs Study (SHPPS) [20]

Indicators: School indicators #1-7

Contents: National survey conducted by the CDC of all state education agencies and a national probability sample of public and private districts, elementary, middle and high schools. State level estimates are available only for items asked of state education agencies. The survey focuses on policies and programs of at the state, district, and school level.

Maintained by: Centers for Disease Control (CDC)

Updated: The initial study was conducted in 1994 and is repeated every 6 years. The results of the 2000 study were released at the end of September.

Access: Surveys are available on the Internet at http://www.cdc.gov/nccdphp/dash/shpps/. Datasets can be obtained through the CDC.

State Tobacco Activities Tracking and Evaluation System (STATE) [17]

Indicators: Community indicator #7 and worksite indicator # 7

Contents: Database summary of state tobacco policies since 1996, including smoke-free indoor air ordinances for restaurants, day care centers, public places (bars, malls, grocery stores, enclosed arenas, public transportation, prisons, & hotels/motels), and government and private worksites.

Maintained by: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Chronic Disease Prevention and Health Promotion, Office on Smoking and Health

Updated: Quarterly, based on a search of the Lexis/Nexis legal database

Access: Data are available on the Internet at www2.cdc.gov/nccdphp/osh/state

Utah Active Community Environments Policy Survey [44]

Indicators: Community indicators #3-4

Contents: A simple survey of policies that support physical activity that can be sent to county or municipal governments.

Developed by: Utah Department of Health

Updated: This survey has not been used in SC.

Access: A copy of the survey can be obtained from the Utah Department of Health.

Appendix G: References

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